

## Grasses and Sedges of Borneo.

BY H. N. RIDLEY.

The following list is compiled from the collections of the Right Reverend Bishop Hose and Miss Hose, and of Dr. Haviland and other collectors as well as the lists of those collected by myself in Sarawak and Sandakan.

In so large a country as Borneo, of which the greater part may be said to be unknown botanically, a list of this kind can only be a preliminary one, and will be very much enlarged as the country opens up. The glumaceous plants too of several large collections such as those of Beccari in Sarawak, Creagh in Sandakan, Motley and Barber in various parts of Borneo, have not at all or only partially been worked out. The best known part of Borneo is Sarawak where Bishop Hose and Miss Hose, Dr. Haviland, and I myself on a short trip have collected. Dr. Haviland whose collections of trees and shrubs were remarkably fine devoted himself but little to herbaceous plants, except on his expedition to Kinabalu.

Most of the Bornean grasses and sedges here also found in the Malay peninsula, and in the adjacent islands of the archipelago.

### GRAMINEÆ.

*Paspalum scrobiculatum*, L. Common. Kuching, Sarawak (Miss Hose), Lundu, Sarawak (Miss Hose), Matang (H.N.R.), and a large form at Bau.

*P. conjugatum*, Berg. Sarawak, Kuching (Miss Hose), Bau (Ridley), Sandakan (Ridley).

*P. distichum*, L. Sarawak at Santubong (Bp. Hose), Kudat (Bp. Hose).

*P. sanguinale*, Lam. Common.

var. *commutatum*. Sarawak, Lundu, (Bp. Hose), Bau and Bidi (Ridley).

var. *debile*. Sarawak, Kuching (Bp. Hose).

var. *pruriens*. Kuching (Bp. Hose).

*P. longiflorum*, Retz. Sarawak, Kuching (Bp. Hose).

*Eriochloa polystachya*, H. B. K. Sarawak river bank (Bp. Hose). Kuching.

*Isachne australis*, Br. Sarawak, Limbang, Kuching (Bp. Hose).

*I. rigida*, Nees. Labuan. Open sandy country. (Ridley 9034). Sarawak, Mt. Matang about 1000 ft. alt (Ridley 11702).

*I. javana*, Nees. Borneo sine loc. (Hook, fil. Fl. Brit. (Ind. p. 24).

*I. Kunthiana*, Nees. Kinabalu (Haviland), Lundu (Ridley).

*Panicum colonum*, L. Sarawak, Kuching (Haviland), Limbang (Miss Hose) Lengga (Bp. Hose).

*P. muticum*, Forsk. Sandakan (Ridley).

*P. repens*, L. Sarawak, Pinding Road (Miss Hose). (Ridley) Common.

*P. plicatum*, Link. Sarawak, Saribas at Kundang Padili (Bp. Hose), Lundu. Abundant. (Ridley).

*P. pilipes*, Nees. Sarawak, Kuching (Miss Hose), Bidi, Matang (Ridley 11697); Sandakan, Bongaya River (Ridley)

*P. patens*, L. Sarawak, Matang (Ridley 11701), Bau (Ridley 11703), Quop (Miss Hose). Br. N. Borneo, Bongaya (Ridley).

*P. setigerum*, Retz. Sarawak, Bau (Ridley).

- P. latifolium*, L. Common. Sarawak, Saribas (Bp. Hose.)  
Quop (Miss Hose), Bau (Ridley 11688), Limbang (Bp.  
Hose); Sandakan, Bongaya in Labuk Bay (Ridley).
- P. myurus*, H. B. K. Sandakan (Ridley), Sarawak, Kuching  
(Bp. Hose).
- P. auritum*, Presl. Sarawak, Labu (Bp. Hose); Sandakan  
(Bp. Hose); Bongaya (Ridley).
- P. indicum*, Linn. Common. Sarawak, Kuching (Miss Hose  
Dr. Haviland), Bau, Mt. Matang (Ridley); Sandakan  
(Ridley); Labuan (Merrill).
- P. myosuroides*, Br. Sarawak, Kuching, Bau (Ridley).
- P. nodosum*, Kunth. Sarawak, Limbang River (Bp. Hose),  
Bau (Ridley), Kuching (Miss Hose, Dr. Haviland 1910),  
Saribas (Bp. Hose).
- P. ovalifolium*, Poir. Sarawak, Kuching (Miss Hose), Bau  
(Ridley); Sandakan, Bongaya (Ridley).
- P. sarmentosum*, Roxb. Sarawak, Kundang Padili, Saribas  
(Bp. Hose).
- P. trypheron*, Schultes. Borneo (Fl. Brit. Ind).
- P. caesium*, Sarawak. Bau (Bp. Hose).
- P. maximum*, Sandakan, Kudat among rocks by the sea (Bp.  
Hose); Sarawak, Kuching (Bp. Hose).
- P. humile*, Nees. Borneo (Fl. Brit. Ind).
- Ichnanthus pallens*, Munro. Sarawak, Puak (Ridley).
- Thysanolaena agrostis*, Nees. Sarawak, Matang (Ridley); Brit-  
ish North Borneo, Gaya Island (Haviland).
- Axonopus cimicinus*, Beauv. Sarawak, Saribas (Bp. Hose).

- Oplismenus compositus*, Beauv. Sarawak, Limbang (Bp. Hose), Road to Bau (Ridley), Quop (Miss Hose), Dahombang River (Haviland).
- Pennisetum italicum*, Sarawak, Quop (Cultivated) Bp. Hose.
- Cenchrus echinatus*, L. British North Borneo, Limbarra Island Labuk Bay in sand (Ridley 9040).
- Thuarea sarmentosa*, Pers. Labuan (Ridley), Sarawak, Santubong (Bp. Hose).
- Oryza sativa*, L. Cultivated.
- O. Ridleyi*, Hook, Fil. Borneo (Hook Fil. Fl. Bri. Ind. p. 93).
- Leersia hexandra*, Sw. Sarawak, Kuching (Ridley, Haviland), Saribas (Bp. Hose).
- Leptaspis urceolata*, Br. Sarawak, Santubong (Haviland); Lundu near Waterfall (Ridley); British North Borneo, Bongaya River (Ridley).
- Coix Lachryma Jobi*, L. Cult. at Labu, Sarawak, etc. (Bp. Hose).
- Zea Mays*, L. Cultivated.
- Dimeria ornithopoda*, Trin. Sarawak, Kuching (Ridley 11718), Bau (Ridley).
- Imperata arundinacea*, Cyrill. Sarawak, Kuching (Haviland, Bp. Hose), a branched form at Bidi (Ridley), Sandakan (Ridley), Labuan (Ridley).
- I. exaltata*, Brngn. Sarawak, Santubong (Bp. Hose), British North Borneo, Kudat (Bp. Hose), Sandakan.
- Miscanthus sinensis*, Anderss. Common. British N. Borneo, Kinabalu (Low), Gaya Island (Ridley), Sarawak, Common everywhere. Quop (Miss Hose), Kuching, Bau. (Ridley).

- Pollinia Ridleyi*, Hack. Borneo, sine loc. (Hook. l.c. 114).
- P. nuda*, Trin. A form with the calli of the spikelets glabrous. Sarawak, Bau (Ridley).
- Saccharum arundinaceum*, Retz. Sarawak, river bank (Bp. Hose), Bau, Skerang, Saribas, etc., (Bp. Hose).
- Erianthus chrysothrix*, Hack. Borneo (sine loc. Hook. fil. l.c.)
- Ischæmum magnum*, Rendle. Labuan (Ridley); Sarawak, Kuching (Bp. Hose, Ridley 11698). Top of Matang (Ridley).
- I. muticum*, L. Sarawak, Kuching, Santubong (Miss Hose).
- I. ciliare*, Retz. Common everywhere. Sarawak, Kuching (Miss Hose, Haviland 1913).
- I. timorensis* Kunth. B. N. B., Sandakan (Ridley); Sarawak Kuching, Limbang, Labu (Bp. Hose), Labuan (Bp. Hose).
- I. Beccarii*, Hook. Borneo (Beccari).
- Pogonatherum crinitum*, Trin. Sarawak, Matang (Hullett), Bau (Ridley).
- Polytrias præmorsa*, Hook. Sarawak, Kuching, river bank (Bp. Hose).
- Roßboellia glandulosa*, Trin. Sarawak, Limbang (Bp. Hose), near Bau (Ridley 11681), Quop (Bp. Hose).
- Andropogon intermedius*, Br. Sarawak, Bau (Ridley 11609).
- A. aciculatus*, Retz. Sarawak, Kuching (Haviland), B. N. B., Sandakan, (Ridley).
- A. halepensis*, Brot. Sarawak, Bidi (Ridley), abundant. Busau.
- A. squarrosus*, Linn. Cult. at Kuching (Bp. Hose).

*A. schoenanthus*, Linn. Cult.

*Anthistiria gigantea*, Cav. Sarawak, Sebayor, Saribas (Bp. Hose), Bau (Ridley), Busau.

*Eriachne trisetata*, Nees. Jesselton (Bp. Hose).

*E. pallescens*, Br. Sarawak, Kuching (Miss Hose); Labuan (Ridley 9106), Merrill.

*Sporobolus diander*, Beauv. Sarawak, Kuching, (Miss Hose), Dr. Haviland, Ridley), Bau (Bp. Hose); Sandakan (Ridley).

*Agrostis canina*, L.

var. *Borneensis*. British N. Borneo, Kinabalu (Haviland 1399) at 13,000 feet alt.

*Deyeuxia epileuca*, Stapf. Kinabalu at 13,000 feet (Haviland).

*Deschampsia flexuosa*.

var. *ligulata*, Stapf. Kinabalu at 13,000 feet (Haviland).

*Eleusine indica*, Gaertn. Everywhere. Sarawak, Kuching (Miss Hose), Sandakan (Ridley).

*E. ægyptiaca*, Desf. Sarawak, Santubong seashore (Miss Hose); Sandakan (Ridley).

*Cynodon dactylon*, L. Sarawak, Kuching (Miss Hose).

*Leptochloa chinensis*, Nees. Sarawak, Kuching, (Miss Hose).

*Phragmites karka*, Trin. "Tebu Ayer," "Buluh Ayer," Sarawak. Bau (Bp. Hose), Skerang (Bp. Hose).

*Eragrostis tenella*, R. and S. Sarawak, Lundu (Miss Hose). Kuching (Bp. Hose).

*E. amabilis*, Wight. Everywhere. Sarawak, Kuching (Miss Hose).

*E. malayana*, Stapf. Sarawak, Kuching (Haviland).

*E. elegantula*, Steud. Sarawak, Kuching (Miss Hose), Sandakan (Ridley).

*E. pilosa*, Beauv. Sarawak, Kuching (Ridley).

*Centotheca lappacea*, Desv. Common everywhere. Sarawak, Kuching (Bartlett, Miss Hose), Pengkulu Ampat (Haviland), Bau (Ridley).

*Lophatherum Lehmanni*. Sarawak, Quop (Miss Hose), Limbang (Bp. Hose), Rejang (Haviland).

*Bambusa* near *Ridleyi*, (fide Gamble). Kinabalu, Tawaran (Haviland 1387). Stapf. in the Linnean Transactions p. 248 gives this as *Schizostachyum Blumei*, Nees. All the specimens seem too imperfect, but the one in the Singapore herbarium seems to me no *Schizostachyum*.

*Schizostachyum brachycladon*, Kurz. Sarawak, Bau (Ridley).

*Gigantochloa Atta*, Kurz. Sarawak Riverbank (Haviland).

*Dendrocalamus flagellifer*. Sarawak, Kuching (Bp. Hose), Quop (Bp. Hose).

*Dinochloa Tjankorreh*, Buse. Penokok River (Haviland 1390), Abundant, foot of Matang, and near Kuching. A very elegant climbing bamboo.

#### CYPERACEÆ.

*Kyllinga monocephala*, Rottl. Everywhere. Sarawak, Kuching (Haviland 1926), Bau (Ridley).

*K. brevifolia*, Rottl. Everywhere. Sarawak, Kuching, Lundu (Miss Hose), Bau (Ridley). British North Borneo, Sandakan (Ridley).

*Pycneus sanguinolentus*, Nees. Sarawak, Bau (Ridley).

*P. nitens*, Nees. Sandakan (Ridley 9031). A tall weak form.

- P. polystachyus*, Beauv. Sarawak, Kuching, Mt. Matang (Ridley), Sandakan (Ridley).  
var. *laxiflora*. Sarawak, Santubong (Miss Hose).
- P. pumilus*, Nees. Borneo, (Motley), forma *Borneensis* (Burbidge).
- P. sulcinux*, Clarke. North Borneo, (Burbidge), Sarawak, Puak in the rubber plantation. A very pretty yellow spikeletted plant.
- Cyperus cephalotes*, Vahl. Banjermassin (Motley).
- C. cuspidatus*, H. B. K., Borneo (Motley).
- C. Haspan*, L. Sarawak, Kuching (Miss Hose), Bau (Ridley) Mt. Matang (Ridley), B. N. Borneo, Sandakan. Bongaya (Ridley), forma *Malasica*, sine loc. (Motley).
- C. pulcherrimus*. Banjermassin (Motley).
- C. malaccensis*, Lam. Sarawak, Kuching (Miss Hose, Ridley), Lundu (Miss Hose).
- C. pilosus*, Sarawak, Quop (Miss Hose), Kuching (Haviland 1916, Ridley), Bau, Matang (Ridley).
- C. zollingeri*, Steud. Sarawak, Kuching, Lundu (Miss Hose).
- C. rotundus*, L. Borneo sine-loc. (Barber), Labuan (Motley) Sarawak, Kuching, Santubong (Bp. Hose).
- C. stoloniferus*, Retz. Sarawak, Santubong (Miss Hose, Ridley). On the sandy shore.
- C. tegetum*, Roxb. Sarawak, Kuching (Bp. Hose).
- C. platystylis*, Br. Banjermassin (Motley).
- C. diffusus*, Vahl. Sarawak, Bau (Ridley), Santubong (Miss Hose).
- C. radians*, Nees. Sarawak, (Beccari), Banjermassin (Motley).



- C. compressus*, L. Sarawak, Kuching, Bau (Ridey).  
*C. Iria*, L. Sarawak, Kuching (Ridley), Lundu (Miss Hose).  
*C. distans*, L. Sarawak, Kuching (Miss Hose).  
*Mariscus dregeanus*, Kunth. Borneo, (Hook. fil. Fl. Br. Ind.)  
*M. cyperinus*, var *tenuifolius*, Schrad. Sarawak, Quop, (Miss Hose).  
*M. biglumis*, var *cyllindro stachys*. Sarawak, Bau (Ridley).  
*M. albescens*, Gaud. Borneo (Barber), Santubong (Miss Hose).  
*M. microcephalus*, Presl. Sarawak, Kuching Bau (Ridley),  
Lundu, (Miss Hose), B. N. Borneo, Bongaya River  
(Ridley).  
*M. ferax*, Borneo (Barber).  
*Heleocharis plantaginea*, Br. Sarawak, Limbang (Bp. Hose).  
*H. variegata*, Kunth. Sarawak, Kuching (Ridley), Limbang  
(Bp. Hose).  
*H. capitata*, Br. Labuan (Bp. Hose).  
*H. chaetaria*, R. and S. Sarawak, Matang (Ridley), Bau (Bp.  
Hose), Kuching. Common. B. N. Borneo, Bongaya  
River (Ridley).  
*Fimbristylis acuminata*, Vahl. Sarawak, Kuching (Miss Hose),  
Sandakan, (Bp. Hose).  
*F. nutans*, Vahl. Sarawak, Bau, Limbang (Bp. Hose) Brunei,  
Brooketon (Bp. Hose, Labuan (Bp. Hose).  
*F. polytrichoides*, Vahl. Sarawak, Santubong (Miss Hose).  
*F. pauciflora*, Br. Sarawak, Matang (Ridley), Kuching, Santu-  
bong (Miss Hose); Brunei, Brooketon, (Bp. Hose).  
*F. schænoides*, Vahl. Sandakan (Ridley); Sarawak, Santu-  
bong (Bp. Hose); Labuan (Bp. Hose).

*F. diphylla* Vahl. Everywhere. Sarawak, Kuching, (Miss Hose), Sandakan (Ridley).

var. *pluristriata*, Clarke. A curious weak form on rocks, high up on Mt. Serapi Matang.

*F. spathacea*, Roth. Sarawak, seashore, Santubong (Miss Hose).

*F. tenera*, R. and S.

var. *obtusata*. Borneo (Hook. fil. Fl. Brit. Ind.) Sarawak Kuching (Miss Hose).

*F. asperrima*, Boeck. Sarawak, Quop (Miss Hose), Bau (Ridley), Kuching (Bp. Hose).

*F. miliacea*, Vahl. Everywhere. Sarawak, Kuching (Haviland, Ridley), Quop (Miss Hose).

*F. globulosa*, Kunth. Sarawak, Pinding Road (Bp. Hose), Kuching (Miss Hose), Brunei, Brooketon, (Bp. Hose).

*F. leptoclada*, Benth. Borneo, (Hook. fil. l.c.)

*F. fusca*, Benth. Labuan (Bp. Hose, Ridley 9042).

*Bulbostylis barbata*, Kunth. Sarawak, Kuching (Miss Hose) Labuan (Merrill).

*Scirpus mucronatus*, L. Sarawak, Kuching (Ridley), Lundu (Miss Hose), Sabu (Bp. Hose).

*Sc. clarkii*, Stapf. Kinabalu (Haviland No. 1398).

*Sc. inundatus*, Spreng. Kinabalu (Haviland).

*Sc. debilis*, Pursh. Lundu, rice fields (Ridley).

*Fuirena umbellata*, Rottb. Sarawak, Kuching (Ridley, Haviland 1918), Lundu (Miss Hose).

*Lipocarpus argentea*, Br. Sarawak, Kuching (Haviland 1906) Quop (Miss Hose), Matang Bau (Ridley).

*Rhynchospora wallichiana*, Kunth. Sarawak, Kuching (Miss Hose).

*R. malasica*, Clarke. Borneo (Fl. Brit. Ind).

*R. aurea*, Vahl. Sarawak, Kuching (Haviland 1914), Pindang Road (Bp. Hose).

*R. glauca*, Vahl. Sarawak, Bau, (Bp. Hose), Kuching (Miss Hose).

*Schænus apogon*, R. and S. Kinabalu (Haviland).

*Sch. melanostachyus*, R. Br. Kinabalu (Haviland).

*Cladium undulatum*, Thw. Labuan (Ridley 9105 Bp. Hose).

*C. samoense*, Cl. Kinabalu (Haviland 1405).

*Gahnia javanica*, Moritzi. Sarawak, Matang (Ridley 11685), Santubong, Sabu (Bp. Hose).

*G. tristis*, Nees. Brit. N. Borneo, Jesselton (Bp. Hose).

*Remirea maritima*, Aubl. Sarawak, Coast opposite Santubong (Bp. Hose).

*Hypolytrum latifolium*, Rich. Common in woods. Sarawak, Matang, Bau (Ridley), Lundu (Miss Hose), Santubong (Bishop Hose).

*H. proliferum*, Boeck. Borneo (Fl. Brit. Ind).

*H. costato-nux*, C. B. Clarke n. sp. Culmo 4-6 dm. longo, remote foliato foliis perlongis, 8-10 mm. latis, panicula 5 cm. longa et lata composita polystachya, spicis parvulis; stylo 2-fids, nuce  $1\frac{1}{2}$  mm. longa longitudinaliter leviter 10-12 costata nec reticulata castanea nigrescente culmus basi lateraliter pullularis vix stolonifer apice triqueter fere levis, nux obvoidea compressa apice obtuse conica. Sarawak, Matang (Ridley 12345).

*Thoracostachyum bancanum*, Clarke. Sarawak, swampy ground in a wood near Puak (Ridley 12339).

*Th. Ridleyi*, Clarke. New species. Quasi umbellae radiis 5 usque ad. 5 cm. longis 1-3-stachyis spicis ovoideis densifloris 6 mm. longis, nuce  $1\frac{1}{2}$  mm. longis anguste obovoidea trigona, lucide castanea, rostro cum  $\frac{1}{2}$  partem nucis aequilongo lineari-conico. Rhizoma gracile lignum, culmi basi robuste pullulantes 5 dm. longi graciliores. Folia omnia basalia 3-4 dm. longa, 7 mm. lata. Bracteae 3, ima. 12 cm. longa filiformes. Species eximia. Sarawak, Kuching. Common in the woods. (Ridley 12346).

This plant is abundant in the sandy woods near Kuching. It is about 15 inches tall with a rather hard woody rhizome, and somewhat stiff leaves; the culms is slender and ends in an umbel of about 5 rays one of which is usually branched: the globose spikes are solitary on the ends of the umbels rays: the glumes are crowded, rather pale, and the nut small and rather long beaked.

*Mapania radians*, Clarke n. sp. Rhizome stout woody. Leaves flacid linear 18-24 inches long,  $\frac{1}{4}$  inch wide, acuminate to a long point, glabrous, nine ribbed distichous crowded at base. Scapes very slender, 3-6 inches long, purple with a close fitting sheath 1 inch long halfway, spikes terminal in a head 4 to 12,  $\frac{1}{4}$  inch long dark red viscid cylindric covered with scale like ovate obtuse bracts with ciliate edges. Outer squamellae flattened with short thick bristles on the keels; Inner squamellae 2 thin lanceolate glabrous. Stamens slender, filaments filiform. Stigmas 3, nut stalked globose, with a very long conic blunt grooved beak, much longer than the rest of the nut. Sarawak, Rocks on Matang, Siul, Puak; Sandakan, Bongaya River (Ridley).

This new species is about 2 feet tall, with a rather slender stem triquetrous above. Leaves narrow linear

acuminate  $\frac{1}{2}$  inch broad, pale beneath, a panicle about  $3\frac{1}{2}$  inches long, and small black globular ribbed nuts.

*M. triquetra*, Ridl. Sarawak, Matang; Bau, Siul, Bidi (Ridley 11698). Common in the woods, also occurs in the Malay Peninsula.

*M. humilis*, Naves and Villars. Sarawak, Matang, etc., (Ridley). A common plant in Sarawak.

*M. debilis*, Clarke n. sp. Fere levis. Foliis 6 dm. longis, 6 mm. latis, utrinque attenuatis, scapo 15 cm. longo gracili, capite florifero 8 mm. in diametro subgloboso e 5 spicis inter se distinctis exstructo, spicis (floriferis) 5 mm. longis ferrugineis densis. Species *M. multispicatae* affinis. Sarawak, Matang (Ridley 12344).

This is a tufted plant, with long narrow grassy leaves, and a small heads of flowers on a slender peduncle about 4 inches long.

*M. zeylanica*, var. A big tufted plant, with numerous stiff rough leaves and heads of flowers on long or short peduncles. Matang (Ridley 12335), also collected in Borneo at Banjermassin by Motley. Mr. Clarke who identifies this, writes that it is otherwise a plant confined to Ceylon.

*Scirpodendron costatum*, Kurz. Sarawak, Santubong (Bp-Hose). Sandakan, Bongaya (Ridley 9038).

*Lepironia mucronata*, Rich. Labuan (Merrill).

*Scleria lithosperma*, Sw. B. N. Borneo; Kudat (Bp. Hose).

*Scl. zeylanica*, Poir. Borneo, Kuching (Miss Hose).

*Scl. caricina*, Benth. Sarawak, Kuching (Ridley 11691), Limbang, Bau (Bp. Hose).

*Scl. neesii*, Kth. Borneo (Fl. Brit. Ind.).

- Scl. bancana*, Miq. Everywhere. Sarawak, Kuching (Miss Hose).
- Scl. multifoliata*. Sarawak, Saribas, Kuching (Bp. Hose).
- Scl. sumatrensis*, Retz. Sarawak, Kuching (Miss Hose) Matang (Ridley), Labuan (Ridley).
- Scl. trigonocarpa*, Ridl. B. N. Borneo ; Gaya Island (Ridley) Kudat (Bp. Hose).
- Scl. laevis*. Common. Sarawak, Bau (Ridley).
- Carex rara*, Booth. Kinabalu (Haviland).
- Carex borneensis*, Clarke. Kinabalu (Haviland).
- C. Havilandi*, Clarke. (*C. hypsophila*, Stapf). Kinabalu (Haviland).
- C. saturata*, Clarke. (*C. filicina*, Stapf). Kinabalu (Haviland).
- C. speciosa*, Kunth. Banjermassin (Motley 1222).
- C. Dietrichiae*, Boeck. River banks at Busau. Common. (Ridley).

Mr. Clarke who names this says it is very frequent in Malaya, and North East Australia. I have never seen it from the Malay Peninsula.